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WITHIN OUR BORDERS

Alberta

AN ALBERTA GOVERNMENT PUBLICATION

Fire Prevention
Driver Testing
Atmospheric Purity
Hunting Regulations

OCTOBER 1, 1959

Mobile Air Tester Is Equipped to Check Continued Purity of Alberta Atmosphere

Variations in amounts of sulphur compounds found in air are continuously recorded by titrolog on endless line graph.

A specially equipped house trailer was placed in service during mid-September by the Sanitary Engineering Division, Alberta Department of Public Health, for continuous testing for air pollution. The $12,000 mobile test centre will be stationed for the first month in the vicinity of Pincher Creek. It is staffed by an engineer and a chemist.

Later the test centre will move to various other points in the province for one-month periods of continuous recording. Locations will be selected on basis of results from small pollution samplers placed in the field during 1958. These sampling boxes provided only approximate quantitative measurements over a given period. The new mobile unit will yield more specific results, traceable to within minutes or hours of any day when a certain level of pollution was recorded. Where air pollution is indicated from field operations of petroleum companies, the Sanitary Engineering Division will work closely with the Oil and Gas Conservation Board.

The main component of test equipment inside the 27-foot house trailer is a titrolog, an electrochemical testing device. From a small intake tube mounted vertically above the trailer, it brings in outside air at the rate of about 1½ cubic feet per hour. The air is fractionated in various chambers and sulphurous compounds are separated. The level of these compounds is recorded electronically by a red-ink needle as a line on a paper graph.

The titrolog operates 24 hours a day, sampling air for 53 minutes of every hour. During the remaining seven minutes the machine automatically balances itself with an initial reference point to correct "drift" of its instruments. The roll of recording graph paper is sufficient for 30 days of machine operation.

Two cabinet style units of like design measure other types of air contaminants. Processing capacity of each is about ¼ cubic foot of air per minute. The first is for dust and smoke. From an outside intake, air passes into a chamber, to be forced through a small vertical tube. In the tube is a narrow slit to accommodate filter paper. A preselector feeds the paper from a roll through the slit at desired intervals, varying from three minutes to three hours. Particles of smoke and dust are caught on the paper in spots about the size of a 25-cent piece.

A completed roll may be fed through an evaluator operating on the photo-electric principle. The degree of darkness shown in spots may be manually interpreted into corresponding degrees of air polution. Tape rolls are so marked that results can be related to exact time periods.

The second cabinet type sampler operates virtually the same as the first. It measures hydrogen sulfide content of air. The air supply is initially filtered to remove dust and smoke. An impregnated tape produces dark spots in reaction to contact with hydrogen sulfide. The photoelectric evaluator measures quantitative amounts the same as in the process for dust and smoke.

A station wagon accompanying the mobile test centre will be used for spot checks on sulphur dioxide pollution in areas surrounding the trailer location. The vehicle is fitted with an air intake system which feeds into a rack of "gas washing" bottles. Water in the bottles is measured for electrical conductivity, a property closely related to the amount of sulphur dioxide present in the water.

The test trailer will be equipped later with a device to continuously record direction and velocity of winds. Used in conjunction with test equipment, it will enable air pollution sleuths to narrow down sources, as well as extent, of air contamination.

Local Brigades Are Assisted In Formation

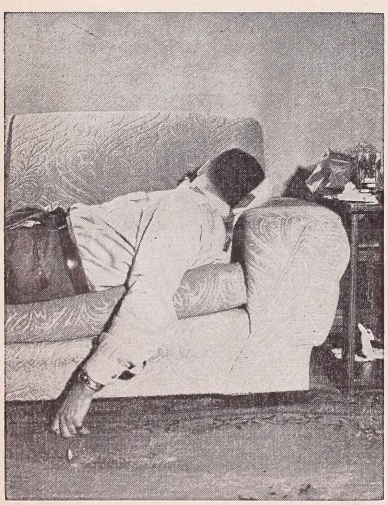
The Alberta Fire Commissioner's Office provides many forms of assistance to regular fire departments, volunteer brigades and municipal authorities. Encouraged by the office, about 12 fire brigades were newly formed or reorganized in 1958 to provide effective fire protection in their communities. Included was a large brigade organized to protect an industrial plant.

Municipal councils contemplating equipment purchase are given recommendations as to type and rating best suited for their needs. The office last year assisted in the organization and operation of 79 fire department practices for as many centres, and helped conduct numerous fire drills in schools, institutions and office buildings.

The Fire Officers' Training School conducted at Vermilion in August 1959 was the first of its kind in western Canada. A similar school is scheduled for two other regional points this fall and winter. Senior ranking officers from points throughout the province receive specialized instruction in a broad field of their duties. Other specific courses are slated for 1960 and 1961 as a follow-up to the introductory course.

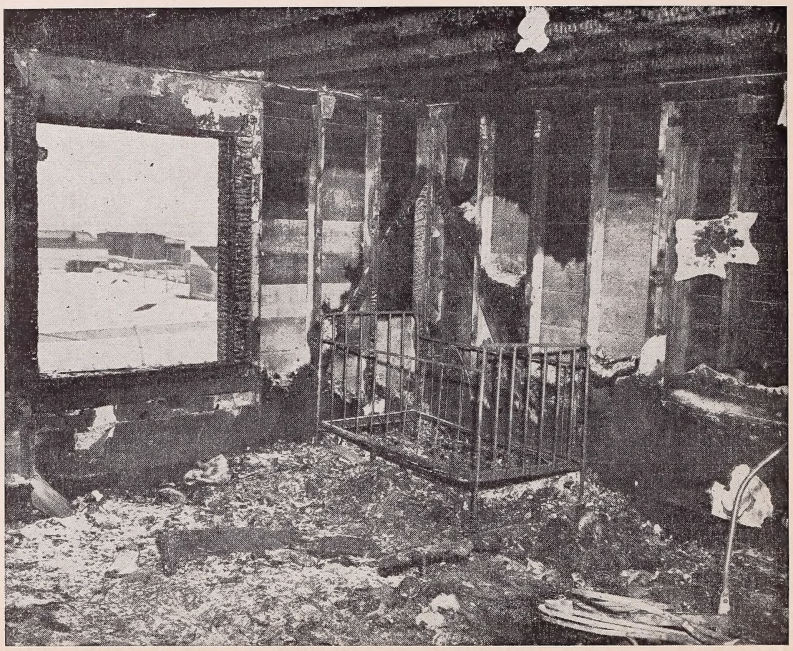
Assistance was given in 1958 to six fire departments who sponsored, organized and operated regional hose laying competitions among fire departments. More than 30 departments participated. The Fire Commissioner's Office actively promoted community participation in the annual International Fire Prevention Week contest. Alberta had 206 entries in the Canada-United States competition. Thirty-nine of the entries from Alberta centres were awarded certificates of merit for their excellent achievements.

The Fire Commissioner's Office recently drafted standard firemen's examinations based on leading North American manuals. The examination forms are available free of charge to fire departments to aid them in better assessing the capabilities of new or present staff.



Carelessness is the prime cause of fires, and smokers are the most careless people of all. This man, dozing off on a chesterfield with a lighted cigarette in his hand may well become a statistic, a victim of his own carelessness.

Fire Commissioner's Officers Probe Blaze Residues to Determine Causes



This is representative of the remains firemen find in many home fires. It is the Fire Commissioner's duty to establish the cause of the fire.

Examination of charred remnants and questioning of witnesses following a fire often furnish provincial fire inspectors with clues as to causes of fire. Provincial inspectors investigate every fire incurring high property loss or other blazes where circumstances appear suspicious. Local fire authorities submit reports of fires in their jurisdiction to the Fire Commissioner's Office, in each case where there has been loss of life, origination appears suspicious, or where no insurance coverage was held.

Staff of the Fire Commissioner's Office in 1958 travelled 130,000 miles investigating 156 fires. As a result of their investigations in co-operation with police and municipal fire authorities, 20 charges of arson were laid, 15 convictions were obtained, one case is pending, and four defendants were acquitted or charges withdrawn. Of the total fires investigated, 51 were classed as incendiary or suspected incendiary origin.

The office also works closely with fire insurance company officials in cases where incendiarism or insurance fraud are suspected. Each makes separate investigations and data may be compared.

Enforcement of orders to rectify hazardous conditions disclosed through inspections is sometimes necessary. In 1958 six convictions were obtained for non-compliance with orders.

Early '59 Fire Losses Show Decrease

Fewer fires and resultant lower property losses were recorded in Alberta for the first six months of 1959 compared with the corresponding period for 1958, from 2,134 to 2,059.

Fire fatalities for the first eight months of 1959 totalled 21. Victims included three children, eight women and ten men. For the same period last year fire deaths numbered 25.

The months of December, January, February and March have shown the highest property loss by fire and the greatest number of fires in each of the past two years.

In June of this year 133 fires were reported, with property losses of $264,606, the lowest in both number and loss value for any month during recent years.

Following is a monthly comparison of the number of fires and property losses for the first half of 1959, with last year's figures in brackets:

Month	Number		Loss	
January	443	(376)	$733,039	(503,963)
February	374	(347)	462,156	(674,940)
March	375	(382)	639,073	(1,117,348)
April	406	(349)	900,068	(539,516)
May	328	(395)	455,978	(342,138)
June	133	(285)	264,606	(603,112)

FIRE COMMISSIONER WAGES STEADY WAR ON FIRE CAUSES

Carelessness Still Major Fire Cause

Alberta's 1958 fire statistics belie the common belief that this is an enlightened age. Carelessness by individuals in smoking accounted for far more urban residential fires during 1958 than any other known cause. This unenviable record was chalked up despite a year round educational program stressing fire prevention. It is the more startling when it is recognized that persons have direct control over the hazards occasioned by smoking but their control is more remote over electricity, the second highest home fire cause in the past year.

The total number of fires in urban homes, apartments and hotels in 1958 was 2,812. Of this number nearly half, or 1,304, were caused by smokers using cigarets, cigars, pipes and matches. Fires caused by electricity numbered 263.

It is also interesting to note from 1958 statistics that the number of residential fires from all causes in urban communities with extensive municipal fire protection, 2,716, was slightly more than six times as great as the combined total of all farm properties and dwellings in smaller urban centres with no municipal protection services. The total of the latter two categories was only 425. Population in the class with highest fire incidence is approximately triple the combined total of farm and urban unprotected.

A breakdown on 1958 fires from all causes, including unknown, shows the following: Dwellings, apartments, their garages and outbuildings—2,816; farm property—325; churches—8; hotels—96; food plants and distillers—11; flour mills and grain elevators—12; oil properties and oil tanks—50; saw and shingle mills—17; lumber yards—2; woodworking ships—6; hospitals and sanatoria—3; public halls—11; schools and institutions—27; all other institutional buildings—11; warehouses—33; retail stores and contents—169; metal working plants—57; mining properties—6; railway properties, light and power plants—12; miscellaneous manufacturing premises—22; miscellaneous non-manufacturing premises—97; properties other than buildings—395.

The grand total of all classifications was 4,186. Smoking caused 1,486 of these fires, with damage at $315,297. The highest property loss from any known cause was $1,081,387 attributed to faulty electrical wiring in 440 fires.

By property classification, the highest fire loss occurred in urban dwellings, $1,353,077. This represented a sharp increase from previous years. The second greatest property loss was sustained by hotels, $1,279,849. Hospitals and sanatoria recorded only three fires with property damage totalling $181, the lowest for any group of building or properties.

In the 10-year period 1949 to 1959 Alberta had 28,999 fires, for a cumulative loss of $59,733,945. The number of deaths resulting from fires was 385. But the injuries, suffering and disability sustained by hundreds of fire victims who escaped death represent an incalculable loss. ●

Inspection, Suggestions Made by Experts To Reduce Hazards for Alberta Residents

Reduction of personal and property fire hazards is a systematic job of the Alberta Fire Commissioner's Office. During 1958 the 12-man staff of the Fire Commissioner's Office inspected 2,532 buildings in cities, towns and villages throughout Alberta.

The term "inspection" covers the checking for hazards in three categories. First is the search for conditions which may cause fire, including defective or improper location of heating equipment, the storage and use of inflammable liquids, the removal of rags and other debris which could cause spontaneous combustion, and elimination of untidiness in general housekeeping. Where unsafe electrical wiring is suspected, the inspector may call in a qualified electrician for a thorough check.

Secondly, the inspection is aimed at provision of minimum safeguards in the event of fire. This includes the examination of fire extinguishers and alarm systems for working order and suitability of type, the proper marking of exits, the condition of stairs and railings, checking exit door locks to assure that they will open from the inside at all times, and examining the suitability of fireproof materials along exit passageways.

The last phase of inspection has to do with evaluation of building materials and design for preventing spread of fire should an outbreak occur. Furnace rooms should be so enclosed that they will contain a fire for a limited period. Multi-storied buildings should have an effective fire barrier between floors and perhaps between sections on the same floor. A great danger may be an open shaft or passageway through which fire could race from floor to floor.

The extent of hazardous conditions detected through Alberta's 1958 inspection program is indicated in number of orders and recommendations issued for remedial action. Written orders totalled 406, with an additional 12 issued by local fire chiefs following provincial inspection. There were also 223 verbal orders and 2,210 written recommendations issued for correction of hazardous conditions.

These orders issued showed the following flagrancies: 85 for improvement in housekeeping conditions, 62 for recharge of fire extinguishers, 50 for removal or repair of dilapidated buildings, 41 for cutting grass and weeds from nearby buildings or vacant lots, 39 for relocation of bulk oil stations or correction of existing hazards therein. The remainder of orders pertained to a wide variety of other conditions.

Centres with an organized fire department or brigade are visited on request of local authorities. Hamlets with no organized protection service are inspected at least once a year. Most owners and operators voluntarily undertake remedies as suggested by inspectors. Advice of inspectors often helps owners to make decisions as to relative worth of renovations or the construction of new buildings. One recent illustration concerned a public building in northern Alberta. Minimum safety measures suggested by the provincial fire inspector led the governing body to decide it would be cheaper to erect a new building than to renovate the old.

A recent request from the Canada Department of Public Works that all federally owned or operated buildings within Alberta be provincially inspected is being carried out. This marks the first request for province-wide federal inspection by provincial personnel.

Inter-brigade competitions held annually at various points throughout Alberta develop local pride in hometown fire departments. These contestants are participating in a hose laying competition.

Machines Evaluate Driver Eyes

An educational program designed to acquaint Albertans with the type of equipment and the procedures used during drivers' license examinations has been undertaken by the Driver Examination Division of the Department of Highways in co-operation with the Alberta Optometric Association.

As a public service program during "Better Vision Week" September 14-19, two trailers equipped with testing apparatus were on display at various centres at Edmonton and Calgary. Similar activities on a smaller scale were carried out in other Alberta communities.

Driver examiners were in attendance to explain visual standards as measured on a "telebinocular" machine (above), as well as reaction time scoring on a special machine, and its relation to stopping distances.

All Alberta driver license candidates are required to pass a visual acuity test, in which the telebinocular equipment is used to determine ability to see sharply at a distance. Other tests on the machine govern field of vision, depth perception and color perception.

Should the applicant fail the vision test he is given the opportunity to consult a specialist in that field to obtain corrective treatment or proper glasses, and can again take tests.

The reaction machine records the time required by the driver to shift his foot from the accelerator to the brakes pedal. This factor and its relation to stopping distances at various speeds is taken into consideration in assessing a driver's capabilities.

Extend Season For Sportsmen

A ten week season for sharp-tailed grouse in the northern zone of the province is a highlight of Alberta's 1959 upland game bird hunting regulations. Opening and closing dates are October 3 and December 12, constituting a 10 day advance and a one week's extension over the 1958 season. Bag limits will remain at 10 birds per day, 40 in possession.

Season dates in the southern zone are October 17 to November 28, one week shorter than last year. The slight curtailment was made to coincide with opening and closing dates for pheasant and Hungarian partridge, where a delayed opening was deemed advisable.

Game management officials of the Department of Lands and Forests are hopeful that the earlier, longer season in the north will produce a heavier grouse harvest. Census counts this spring indicated a peak population level in the Peace River block. An unchecked build-up could send the population crashing downward.

Two northern spring census areas under study since 1958 showed an increase of 55 percent. Spring bird densities were 63 and 98 per square mile respectively. This compares with a stable density of 16 birds per square mile in the Provost area. The Peace River figures probably equal those anywhere in the Province.

Brood production during summer, in average years, roughly doubles the number of birds available by the fall hunting season. ●

WITHIN OUR BORDERS

"Within Our Borders" is a publication designed to acquaint the people of the Province with the administration of the Alberta Government.

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KNOW YOUR ALBERTA

Lofty Railroad Bridge Replaces Miles of Track

October 23, 1959, will mark the fiftieth anniversary of the opening of the Lethbridge railway viaduct, reported to be the highest and longest of its type in the world.

The structure took two years to build and cost in excess of $1,500,000. The bridge is 5,328 feet long and 307 feet high at its highest point. Thirty-three steel towers of varying height and 67 steel spans went into its construction. Total weight of the steel used in the project is estimated at 12,500 tons. It took 645 railway flatcars to transport the steel, and an additional 255 cars for other necessary materials. Approximately 7,600 gallons of paint are required to paint the structure.

The viaduct was built by the Canadian Pacific Railway. Prior to its construction the railway travelled a few miles west of the structure around numerous hills, and up and down several coulees of the Oldman River valley.

The bridge replaced 20 others on the old route, and reduced the distance travelled by 5.3 miles. Curves equivalent to five complete circles were eliminated. ●

COMING EVENTS

During the coming year Alberta will be the scene of many events of provincial, national and international interest. Within Our Borders is pleased to list these in its Coming Events column. Information should be forwarded to Within Our Borders, Room 502, Legislative Bldg., Edmonton.

Oct. 5	*Royal Canadian Golf Association*	*Edmonton*
Oct. 5- 8	*Canadian Tourist Association Convention*	*Edmonton*
Oct. 4-10	*Fire Prevention Week*	*Alberta*
Oct. 8	*Pure Water Association Meeting*	*Edmonton*
Oct. 9-14	*Salvation Army Inter-Provincial Congress*	*Edmonton*
Oct. 12-13	*Canadian Conference on Securities Administration*	*Calgary*
Oct. 14-16	*Association Milk Foundations of Canada*	*Calgary*
Oct. 19-23	*Fire Officers Training School*	*Olds*
Oct. 26-29	*Union of Alberta Municipalities Convention*	*Calgary*
Oct. 27-29	*Associated Hospitals of Alberta Convention*	*Edmonton*
Oct. 29	*Canadian Mental Health Society Meeting*	*Edmonton*
Nov. 2- 3	*Insurance Agents Association of Alberta Convention*	*Edmonton*
Nov. 3	*Alpine Club of Canada*	*Edmonton*
Nov. 9-10	*U. of A. Short Course in Surgery*	*Edmonton*